

Amendments to the Specification:

Please amend the specification as follows:

Please replace the Title of the Invention from the PCT Application with the following new title:

PATTERN WRITING SYSTEM AND PATTERN WRITING METHOD.

Under the heading “Brief Description of the Drawings”, at page 5, please replace the 5th paragraph with the following rewritten paragraph:

Figs. 5a and 5b are diagrams ~~Fig. 5 is a diagram~~ for explaining pattern writing.

Please replace the first and second paragraphs starting at page 13, line 1, with the following rewritten paragraphs:

Referring to Figs. 10 and 11, description will be made about a first example according to a second embodiment of this invention. Fig. 10 is a structural diagram of describing a pattern writing system 100 as the first example of this invention while Fig. ~~[[2]]~~ 11 is an explanatory diagram of describing a pattern writing method by the pattern writing system 100.

The pattern writing system 100 shown in Fig. ~~[[1]]~~ 10 mainly comprises a mask pattern projecting portion 101, an XY stage 102, a mask pattern data output device 103, and a wavelength-conversion solid-state laser 104 serving as an ultraviolet light source. The wavelength-conversion solid-state laser 104 uses the third harmonic of a YAG laser that implements repetitive pulse operation at 10000Hz and pulse laser light L1 with a wavelength of 355nm is extracted therefrom. The laser light L1 enters the mask pattern projecting portion 101 and is reflected by a mirror 105 so as to be incident upon a mirror device 106 in the form of two-dimensionally arranged micromirrors. In the mirror device 106, the 2048×512 (i.e. about one million) micromirrors are herein arranged longitudinally and transversely at about a 16-micron pitch. In the mirror device 106, the deflection angle of each micromirror is controlled at a frame rate of 10000Hz by the mask pattern data output device 103 and, in this invention, is controlled only in two directions (i.e. ON/OFF controlled). By

this, what proceeds in a direction for use in exposure becomes laser light L2. The laser light L2 proceeds through lenses 107a and 107b so as to be transferred onto a mask substrate 108 as a projection pattern 109. That is, the lenses 107a and 107b form a reduction-projection optical system so as to reduction-project the plane of the mirror device 106 onto the mask substrate 108 applied with an i-line resist. The mask substrate 108 is placed on the XY stage 102 so that the projection pattern 109 can be moved over the whole area on the mask substrate 108, thereby enabling pattern writing over the whole surface of the mask substrate 108.

Please replace the first paragraph starting at page 14, line 1, with the following rewritten paragraph:

When transferring the pattern on the mirror device 106 onto the mask substrate 108, the writing method as shown in Fig. [[2]] 11 is used in this invention. Fig. 11 shows, in time sequence, the state of moving the projection pattern 109 in X-direction in Fig. 10. In the pattern writing system 100, since, as described above, the pattern on the mirror device 106 is controlled at 10000Hz frames, a new pattern is projected onto the mask substrate 108 per 0.1ms. Therefore, Fig. 11, (a), (b), (c), (d), and (e) show positions of projection patterns 109 (109a, 109b, 109c, 109d, and 109e in sequence) per 0.1ms. That is, the pattern projected onto the mask substrate 108 due to generation of the pulse laser light L1 moves a quarter of the size (width in X-direction) of the projection pattern per 0.1ms. The movement of the projection pattern 109 is carried out by the movement of the mask substrate 108 caused by the XY stage 102.

Please replace the last paragraph starting at page 15, line 26, with the following rewritten paragraph:

Now, referring to Fig. 13, description will be made about a second example according to the second embodiment of this invention. A pattern writing system 200 of this invention shown in Fig. 13 comprises a mask pattern projecting portion 101, a mask pattern data output device 103, and a wavelength-conversion solid-state laser 104 serving as an ultraviolet light source which are the same as the components of the pattern writing system 100 of the first example shown in Fig. 10. However, this system does not directly write a mask by the mask

pattern projecting portion 101 but implements pattern writing on an intermediate mask 201 and, based on this, forms a mask pattern 205 on a mask substrate 204 placed on an XY stage [[205]] 203 through a reduction-projection optical system 202. In this example, use is made of the writing method as shown in Fig. 11 by the use of the mask pattern projecting portion 101 like that in the first example and, as a result, the intermediate mask 201 is written at high speed. As a feature of this example, since the mask pattern 205 actually transferred onto the mask substrate 204 can be reduced in size to about 1/4 as compared with the intermediate mask 201, it is particularly suitable for writing a 1:1 mask or the like.

Please replace the first paragraph starting at page 21, line 3, with the following rewritten paragraph:

Now, description will be made about the structure of the pattern writing system 600 shown in Fig. 17. Laser lights L61, L62, L63, and L64 respectively extracted from four pulse laser devices 604a, 604b, 604c, and 604d used in the pattern writing system 600 are subjected to repetition of division and synthesis by many mirrors 605a to 605h and four beam splitters 610a, 610b, 610c, and 610d as shown in the figure so that four laser lights L65, L66, L67, and L68 are produced. In this example, the four beam splitters 610a, 610b, 610c, and 610d each have a reflectance of 50% (transmittance of 50%) and the laser lights L61, L62, L63, and L64 are each incident upon the beam splitters twice, and therefore, all the laser lights are each reduced to 1/4 energy and distributed to the four beams. Therefore, the four laser lights L65, L66, L67, and L68 respectively include the same energies of the laser lights L61, L62, L63, and L64, i.e. the energies are averaged, the energy variation in the laser lights L61, L62, L63, and L64 is reduced to half or less.